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ARTICLE



Conceptualizing reflection in experience-based workplace learning

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ABSTRACT

This paper seeks to understand key dimensions of reflection in experience-based workplace learning for research being collaboratively undertaken by scholars in Dutch and US research institutions. We systematically explore and compare Tara Fenwick's analysis of five perspectives on cognition to distinguish among constructivist, psychoanalytic, situative, critical-cultural, and enactivist perspectives on reflection. Our aim is to examine how to conceptualize reflection so that one or more perspectives can complement our understanding of learning through experience at work. We position reflection not only from a practical but also from a theoretical perspective that moves beyond the individual focus of the constructivist perspective. Fenwick's five perspectives are described in terms of whether and how reflection is utilized, key activities in the process of reflection, relative focus on the individual and/or the context, triggers for reflection, role of power and positionality, role of emotions, and reflection outcomes. We conclude that adding other lenses to the dominant constructivist perspective helps expand our understanding of reflection as well as identify and attend to other tools, people, and factors in the work situation that influence reflection processes and learning outcomes. The paper closes with a discussion of promising new approaches that have emerged since Fenwick's analysis.

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Introduction

We write this paper to deepen our conceptualization of reflection in workplace learning from and through experience. Our overall aim is to reconsider ways that reflection is commonly defined in workplace learning. The catalyst for this paper came from collaboration between a Dutch and a US research institution through which we have separately and jointly researched such learning. We found that constructivism often determines how adult learning in the workplace is framed. In this paper, we seek to broaden this current, mainly individualistic, cognitive reliance on how 'reflection' is understood in order to open up the 'black box' of learning between triggers and outcomes.

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From a constructivist understanding, workplace learning occurs in the context of single one-off experiences, or over time through a series of interactions. In either case, individuals bring their prior life and work meanings, knowing, skills, beliefs, interests, and motivation to bear on each learning moment (Marsick, Watkins, and O'Connor 2011). They learn in different venues, with or without collaboration of others, and through different modalities. Their learning may be structured through training or education to access known expertise in a formal classroom setting, or it can arise organically while solving problems, pursuing challenges or opportunities in the context of work in the form of informal or incidental learning (Marsick and Watkins 2001).

According to Tara Fenwick (2008), workplace learning can be defined as 'expanding human possibilities for flexible and creative action in contexts of work'. Here, workplace learning refers to *informal* learning that involves the *interconnections* of humans and their actions with rules, tools and texts, cultural and material environments. It includes the relations and dynamics *among* individual learners and learning collectives, and it is often *embedded* in everyday practice. Workplace learning is also *embodied*, involving cognitive and affective activity. Although it can be defined as an outcome of change, Fenwick examines it as a *process*. Reflection, Fenwick (2000) argues, is *explicitly* identified as central to learning primarily in the constructivist perspective.

The constructivist view of reflection *before*, *in*, and *on* action is pivotal to learning from and through action at work. Experience alone is not enough for learning (Boud, Keogh, and Walker 1985; Mezirow 1991; Schön 1983). Drawing on John Dewey (1933), David Kolb (1984), Jack Mezirow (1991), and others posit that the way that meaning is constructed is key to transforming experience into learning through reflection. Reflection helps 'to identify problems, emerge solutions or engage in collective inquiry' (Fenwick 2010, 81). Literature reviews on reflection have been conducted in the fields of HRD, health education, and management learning (Carson and Fisher 2006; Dymont and O'Connell 2011; Jordi 2011; Mann, Gordon, and MacLeod 2009; Reynolds and Vince 2004; Schippers, Den Hartog, and Koopman 2007; Sherlock and Nathan 2004). Authors have looked into conceptualizing reflection over the last decade and a half; there are now more meta-studies available that review the nature of reflection and its influencing factors (Snyder 2008; Taylor and Snyder 2012; Taylor 2007).

A number of alternative perspectives on learning, however, have emerged in recent years, which shed light on meaning making and reflection in the workplace. Fenwick (2000), for example, distinguished four perspectives on cognition in addition to the constructivist view: psychoanalytic, situative, critical-cultural, and enactivist perspectives. We took Fenwick as a point of departure for examining the role of reflection in these and other perspectives in order to open ourselves to a range of conceptualizations of the role it may play in learning at work.

This paper therefore aims to investigate the following question: How can the notion of reflection be conceptualized for studies on learning from experience in the workplace? Comparing and contrasting reflection through the lens of Fenwick's (2000), five different perspectives allow us to theorize more accurately about the role, if any, that reflection plays in different conceptualizations of learning and consider implications for researching workplace learning from both a theoretical and practical perspective. In doing so, we will use the following dimensions to discuss reflection for learning in each perspective: (1) whether and how reflection is utilized, (2) key activities in the process

of reflection, (3) relative focus on the individual and/or the context, (4) triggers for reflection, (5) role of power and positionality, (6) role of emotions, and (7) reflection outcomes. We then draw conclusions about whether and how such different conceptualizations might be drawn upon in future research on learning from and through experience in the workplace. We close with thoughts about what is left out in this framing, based on recently evolving approaches with implications for conceptualizing reflection in workplace learning.

Five perspectives on cognition and reflection

By taking Fenwick's (2000) five perspectives on cognition as a point of departure, we seek implications for conceptualizing the role of reflection in workplace learning that *is* experiential: such learning is informal or otherwise self-initiated and managed, and it occurs in the context of work tasks within an organizational context. In placing human cognition at the heart of learning, Fenwick asserted, 'Experience embraces reflective as well as kinesthetic activity, conscious and unconscious dynamics, and all manner of interactions among subjects, texts, and contexts' (244–245). She examined situations 'within a pedagogical frame theorizing some sort of intersection between situation, educator, and subject whose position is designated *learner* by virtue of a traceable developmental moment' (245). Fenwick's analysis is useful for identifying perspectives on reflection, as she addressed experiential learning specifically (see Table 1).

Fenwick's (2000) five perspectives included: constructivist, psychoanalytic, situative, critical-cultural, and enactivist. Table 1 defines each perspective. Reflection in her typology was only *explicitly* addressed as central to learning in the constructivist view because meaning is made by reflecting *before*, *in*, and *on* action. In this article, we consider how reflection might be further considered in each perspective. For example, reflection might be needed to resolve intrapersonal conflicts in the psychoanalytic view, even though Fenwick conceptualized learning as occurring solely through experimentation. Fenwick further described situated learning as a function of interaction with tools and activities. We imagine reflection might occur when making sense of that interaction, even though it is presented as implicitly integrated with tasks at hand. Fenwick explained that the critical-cultural view calls for deconstruction and discourse analysis, which we see as entailing critical reflection on assumptions (Mezirow 1998). Reflection in the enactivist tradition was presented as interactive as in the situated perspective but differentiated as ecologically embedded and a means of evolutionary innovation. In the remainder of this section, drawing on theory and selected research, we elaborate as to how reflection may be positioned with regard to learning in each of the five perspectives.

Reflection in the constructivist perspective

From the constructivist perspective, reflection is a conscious and explicit process, with the aim of meaning making. As people navigate through life, reflective activities need to be triggered, such as noticing, reviewing, interpreting, framing, generalizing, and applying metacognition. Individuals independently construct meaning within a learning context that is separate from this metacognitive activity.

Table 1. Five perspectives on cognition (adapted from Fenwick 2000).

| Perspective | Descriptor | Definition of learning | Selected theorists |
|-------------------|---------------|--|--|
| Constructivist | Reflection | 'A learner is believed to construct, through reflection, a personal understanding of relevant structures of meaning derived from his or her action in the world'. (p. 248) | Boud; Brookfield; Dewey; Kolb; Mezirow; Piaget; Schön |
| Psychoanalytic | Interference | 'Learning as interference of conscious thought by the unconscious and the uncanny psychic conflicts that result. ... [We experience] daily, disturbing inside-outside encounters ... [and through them] we enter the profound conflicts, which are learning' (p. 251). 'To learn, people need to be deliberate experimenters in their own learning, willingly engaging in traumas of the self'. (p. 252) | Freud; Jung; Pinar; Britzman |
| Situative | Participation | 'Individuals learn as they participate by interacting with the community (with its history, assumptions and cultural values, rules, and patterns of relationship), the tools at hand (including objects, technology, languages, and images), and the moment's activity (its purposes, norms, and practical challenges)'. (p. 253) | Billett; Brown, Collins, Duguid; Greeno; Lave and Wenger |
| Critical-cultural | Resistance | 'Learning in a particular cultural space is shaped by the discourses and their semiotics (signs, codes, and texts) that are most visible and accorded most authority by different groups. These discourses often create dualistic categories ... They also legitimate certain institutions and exclude others by representing norms'. (p. 257) | Bourdieu; Foucault; Giroux; Kellner; Usher |
| Enactivist | Co-emergence | Learning involves constant interaction resulting in change. It 'depends on ... having a body with various sensorimotor capacities embedded in a biological, psychological, cultural context ... the systems represented by person and context are inseparable ... change occurs from emerging systems affected by the intentional tinkering of one with the other'. (p. 261) | Davis and Sumara; Maturana and Varela |

This view on reflection is very common in adult education literature, where concrete experiences and cognitive reflection upon these experiences – also known as constructivism¹ – have been used as the prevailing gateway to understanding learning from experience (Fenwick 2001). In the long history of constructivism (Piaget 1950; Von Glasersfeld 1984), learners act as independent and active constructors of their own knowledge, with ‘varying capacity or confidence to rely on their own constructions’ (Fenwick 2000, 248). The individual can be seen as a learning self within a system where the context – important but separate – depicts the space in which the learner moves autonomously (Fenwick 2000).

Learners form mental structures by mulling over lived experience, interpreting, and generalizing the experience. Learners retrieve stored structures from memory and then represent, express, and transfer them into new situations. This meaning-making process takes place within the learner’s mind, oscillating between assimilation of new knowledge into existing constructs and accommodation of the internal constructs in response to new experiences that contradict the exiting constructs (Piaget 1950). Learners engage in problem solving as an intellectual activity of *metacognition*, a process that allows for reviewing existing frames of reference to create new knowledge.

Adult education scholars emphasize personal experience as a fundamental concept of reflection (Dewey 1933; Schön 1983; Kolb 1984; Mezirow 1990, 1991): ‘the main influence on learning and change is our experience of the world and how we construe it’ (Boud, Cressey, and Docherty 2006, 3). Through reflective thinking, that is ‘assessing the grounds of one’s beliefs’ (Dewey 1933; cited in Mezirow 1990, 5), the learner looks back on lived experience and then interprets and generalizes this experience to form mental structures, so-called meaning perspectives (Mezirow 1990, 2). Different types of experience may trigger (critical) reflection, for example ‘disorienting dilemmas’ (Mezirow 1978) or ‘critical incidents’ (Cope and Watts 2000). Here, positive and negative emotions play a role when reviewing lived experience in the process of meaning making.

Boud, Keogh, and Walker (1985, 19) include emotions in this otherwise fairly rational process by defining reflection as ‘a generic term for those intellectual and affective activities in which individuals engage to explore their experience in order to lead to new understanding and appreciation’. Also Kolb (1984) sees reflection as a tension- and conflict-filled (and possibly: emotion-filled) circular process, starting with the concrete experience and then moving through reflective observation, abstract conceptualization before concluding with active experimentation. Otherwise, emotions may be seen as disruptive to the constructivist process, and it is the individual who needs to manage the feelings in order to proceed with metacognition.

The outcomes of reflection in the constructivist perspective may include meaning making or perspective transformation: ‘reflection is the apperceptive process by which we change our minds, literally and figuratively’ (Mezirow 1991, 9).

Donald Schön (1983), promoter of the constructivist perspective in workplace learning, places the practitioner into the heart of the reflective thinking process: by noticing and framing problems of interest, reflective practitioners inquire, and experiment with solutions. Here, power and positionality, for example between employee and manager, are not addressed. However, hierarchies do play a role when examining different levels of reflection; ‘premise reflection’ (Mezirow 1991) or ‘double-loop learning’ (Argyris and Schön 1974) are seen as higher (and superior) reflection levels, in comparison to ‘simple’ reflective thinking.

Reflection in the psychoanalytic perspective

Reflection from the psychoanalytic perspective taps into the realm of the unconscious and emphasizes the resolution of intrapersonal conflicts that might become accessible through introspection and verbalization. Accounting for the limitations of the constructivist understanding of reflection that relies on conscious awareness, the psychoanalytic perspective considers unconscious dynamics and offers a different view of reflection including symbols and metaphors, dialogue with the self, transformation, and self-discovery in the context of relationships.

Fenwick (2000, 244–245) defines experiential learning as a process of human cognition whereby ‘experience embraces reflective as well as kinesthetic activity, conscious and unconscious dynamics, and all manner of interactions among subjects, texts, and contexts’. As such, reflection emphasizes resolution and ‘helps open ways of approaching the realm of the unconscious, our resistance to knowledge, the desire for closure and mastery that sometimes governs the educational impulse, and enigmatic tensions between learner, knowledge, and educator’ (250–251). This description of experience-based learning centres on psychoanalytic dynamics that influence internal resistance to learning. In this, Fenwick refers to Britzman (1998) who ‘views learning as interference of conscious thought by the unconscious and the “uncanny” psychic conflicts that result’ (251). In other words, ‘we learn by working through the conflicts of all these psychic events. Experiential learning is thus coming to tolerate one’s own conflicting desires while recovering the selves that are repressed from our terror of full self-knowledge’ (252).

Similarly, Boyd’s (1991) investigations of personal transformations in small groups demonstrate that psychic components outside of the ego can be included in the dynamics of learning. He critiques reflection by distinguishing between his work and what is commonly understood as reflection: ‘Schooling in western societies has taught that we can think our way out of difficulties. That is to say, the reflective processes, properly managed by the ego, are the means to a constructive and productive way of handling the problems encountered in life. To some extent there is validity to this position but its failure to take into account other components of the psyche creates an incomplete if not a distorted picture’ (Boyd 1991, 9).

According to both Boyd (1991) and Fenwick (1999, 2000), therefore, reflection alone is insufficient for fostering personal transformation and understanding the dynamics of learning in groups, because individuals are limited in their capacity to reach the unconscious. Enckell (2010, 1093) offers a different view of reflection by arguing that psychoanalysis is ‘an art of reflection’ that seeks to ‘facilitate the subject’s retrieval of his own self’. He looks at symbols and metaphors as key elements: ‘Symbols and metaphors are both instruments of symbolization: they both promise to tell more. But they lead us in opposite directions. Symbol leads us back to a posited and given reality while metaphor stands for the hope of future possibilities’ (Enckell 2010, 1111). Given these two directions, Enckell (2010, 1093) presents two views of reflection: an archaeological model that searches for the self in life history, the ‘temporal, structural and procedural “anterior”’; and a teleological model that gestures towards ‘a still evolving meaning process’, one that ‘resides in a “future”’.

Gould (1990, 134) identifies concepts of adult development as the bridge between psychotherapy and adult learning; adults must ‘learn how to adapt to a whole new set of

circumstances as they go through life's transitions' and 'revise a meaning perspective of the past and change behavior patterns and attitudes that were once adaptive'. Mezirow's starting theory of transformative learning or perspective transformation evolved when he collaborated with Gould and discovered the psychoanalytic dimensions of adult learning. Gould invited Mezirow to collaborate on a project involving adults in transition where Mezirow would 'take the essence of short-term therapy' and apply it to the educational context (Marsick and Finger 1994, 6). In an earlier paper, Mezirow stated: 'Psychoanalytic theory provides substantial reinforcement of the idea of perspective transformation' (Marsick and Finger 1994).

Schapiro, Wasserman, and Gallegos (2012) offer a framework to explore how transformative learning takes place in the context of groups and various forms of dialogue within them. The transformative power of dialogue, from a psychoanalytic perspective, includes influences from Carl Rogers (1961) on person-centred therapy, unconditional positive regard, and deeply reflective listening. In addition, the authors mention three types of transformative learning groups and their characteristics according to various factors that include the 'locus of change' in the habits of mind and habits of being on multiple levels of the intrapersonal, interpersonal, intragroup, intergroup, organizational, and societal (Schapiro, Wasserman, and Gallegos 2012, 361). One type of group exists for personal growth and self-awareness, where self-discovery takes place in the context of relationship with others. Here, 'dialogue focuses on the self' and group work becomes 'a means to achieve personal growth and change and is used most often within the fields of social work and counseling psychology' (363). These groups 'provide a context in which individuals can critically assess their assumptions and frames of reference, get in touch with and express their emotions, reflect on their own behavior, dialogue with aspects of their own subconscious, and reach new levels of personal integration and development' (Schapiro, Wasserman, and Gallegos 2012). The authors also mention Boyd and Myers' (1988) model of discernment and individuation that involves dialogue with the subconscious. In addition, the authors explore the depth psychology approach to transformative learning that involves dialogue with the self – between the ego and other hidden parts of one's self – and achieving an expanded self-concept through integration of various parts of the self. The locus of change is 'clearly on the intrapersonal and perhaps interpersonal levels, as new learnings and personal capacities can lead to changes in our interpersonal behaviors' (365).

Reflection in the situative perspective

Viewed from the situative perspective, reflection is just one of many learning experiences; work-based tools and systems trigger participation and collaboration between learners and in interaction with their context – with little organizing or formal intervention required. Unlike the traditional constructivist perspective, most studies from the situative perspective pay little attention to reflection in and of itself. Reflection is input for further learning and sense making, nothing more and nothing less.

According to Fenwick (2000), 'the process of knowing is essentially corporeal, realized through action, and, therefore, often worked out in a domain beyond consciousness. This fundamentally challenges the belief that individual reflection and memory is significant in knowledge production' (Fenwick 2000, 254). This view

seems to be well in line with most studies from the situative perspective that rarely emphasize reflection as a relevant activity (i.e. above and beyond other learning experiences).

In a study often seen as 'starting' the situative perspective, Brown, Collins, and Duguid (1989) regarded reflection on action strategies as a way for students to move from embedded activity to generalized ideas, through articulation of collaborative experience. Reflection is much less pronounced as a concept in Lave and Wenger's (1991) seminal work on situated learning. The authors briefly refer to it as a way of talking together about ongoing activity; however, on the whole, Lave and Wenger's (1991) focus is much more on participation than on reflection. In their follow-up book on communities of practice, however, Lave and Wenger (1998) do address the notion of reflection more extensively, especially in the *design epilogue*. Reflection is there regarded as one of the processes that make up the *learning architecture of imagination*, which also includes 'engagement and alignment' (Lave and Wenger 1998, 237). Reflection is further operationalized in terms of 'models and representations of patterns; facilities for comparisons with other practices; retreats, time off, conversations, sabbaticals, and other breaks in rhythm' (238).

Greeno (1997) pays attention to the issue of reflection as an important component of thinking and sense making: 'Thinking is an aspect of social practice, involving reflection and discourse on activities of individuals and groups and of meanings of concepts that are significant in evaluating and making sense of the community's and of individuals' activities and experiences' (97). He does not, however, offer more clarity about the nature of such reflection activities themselves.

Sfard (1998, 6) points out that new studies around 'reflection, communication, and learning'; 'competence and reflective knowing'; and 'reflective discourse and collective reflection' started to emerge in the late 1990s. However, the term *reflection* does not otherwise appear in her ground-breaking article.

Since these seminal studies were published, not many studies have explicitly linked situated learning/cognition to reflection. A notable exception is a study of student teachers conducted by Ovens and Tinning (2009, 1130): 'We contend that reflection is not something that is acquired as a form of discrete knowledge or skill but is something that is enacted as part of the discursive contexts in which student teachers find themselves'. Qualitative data from five student teachers offer support for this contention (see also Bell and Mladenovic 2015).

Hardless, Nilsson, and Nuldén (2005) conducted an action research project in the area of organization development. Their assumption was 'that reflection on experiences leads to learning, and that the new understandings will guide future actions' (189). The authors differentiate between four different approaches to reflection: intuitive (not any explicit reflection), incidental (triggered by novel experiences), retrospective (reviewing routine experiences), and prospective (being attentive to experiences to learn from). Although these categories do not return in the empirical part of the paper, the authors conclude that reflection helps the participants learn, which supports organizational maintenance (but not organizational change).

All in all, the situative perspective focuses on participation and collaborative action, systems, and tools as important triggers for reflection in the work situation (Lundin and Nuldén 2007). Power and positionality are defined or dictated by the situation, as

Fenwick (2000) indicates: ‘The learner moves from peripheral participation in a community to more central positionality with competence’ (Fenwick 2000, 268). Reflection is input for further learning experiences and sense making together with tools, people, and other factors in the situative perspective, nothing more and nothing less. With the exception of Wenger’s ideas on communities of practice and the study by Hardless, Nilsson, and Nuldén (2005), authors in this tradition do not seem to allude to reflection as something that needs to be organized specifically. The situative perspective does however identify and attend to tools, people, and relevant factors in the situation that affect reflection processes.

Reflection in the critical-cultural perspective

Reflection in the critical-cultural perspective centres on the issues of power. Power dynamics are socially constructed and historically developed, influence what is valorized, control expectations and actions, and shape what people include or exclude in perceptions, how people conceptualize agency, and negotiation of roles, stances, or positions. Individual reflection is managed towards what organizations want considered, for example, defined competencies, achievement gaps, career ladders, and other instrumental aims. The critical-cultural view calls for deconstruction and discourse analysis of such assumptions.

In this view, ‘learning in a particular space is shaped by the discourses and their semiotics (signs, codes, and texts) that are most visible and accorded most authority by different groups’ (Fenwick 2000, 257). Dualistic categories focus attention, ‘legitimate certain institutions and exclude others by representing norms and casting nonconformists as “other” to these norms’ (Fenwick 2000, 257). *Borders and boundaries* define communities and identify options within them; and how they close, open, or blur spaces for cultural practices, identity formation and learning. Reflection misleads individuals into thinking they can and should autonomously control or direct their lives and diverts attention from changes needed in the larger oppressive system imposed on them.

Rhodes and Scheeres (2004, 176) argue that ‘the recent emergence of a postmodern organizational learning discourse that valorizes participation, empowerment, flexibility and diversity’ emphasizes ‘learning from reflection and semi-formal work-related activities’ as well as ‘a concern for values, culture and organizational alignment’ (182). However, their research suggests that little changes because control is still top-down, training still emphasizes defined targets versus participant-directed learning, and learning strategies ‘positioned the participants as passive followers of procedures’ (189). They show how difficult it is to critically reflect on, and change, the dominant power position of control that organizations hold.

Billett (2004, 312) – while taking a situated perspective – shifts the focus of reflection in workplaces from the individual to the social because of ways that organizations regulate practice ‘as a product of cultural practices, social norms, workplace affiliations, cliques and demarcations’. He examines ‘the relational interdependent processes shaping individuals’ learning’ and how individuals negotiate their own desires and intentions within the affordances of the context.

Vince (2002), as does Rhodes and Scheeres (2004), advocates for public, shared reflection. He rethinks reflection, drawing on action research in a company undergoing

rapid change despite a risk-averse organizational culture in which managers feared failure or conflict, and ‘politics and power relations ... shape[d] ways of organizing’. Norms, structures, practices, and ‘poor communication across the boundaries of different groupings’ (Vince 2002, 64–65) were not openly discussed. Vince critiques definitions of reflection that conceptualize it ‘as an individual responsibility, something that the manager does, when he or she has the time, in order to solve or think back about a problem or issue, and the way he or she dealt with it’ (66). Using a political rather than a social perspective, he advocates for shared, public, critical reflection that ‘is concerned with questioning assumptions’, ‘focus[es on]...the social rather than the individual’, ‘pays particular attention to the analysis of power relations’, and ‘is concerned with democracy’ (66). Vince identifies collective organizing processes that support reflection while at the same time help manage ‘the anxieties raised by making power relations visible’ (63).

The critical-cultural perspective leads to surfacing perennial conflict, resistance, challenge, and power negotiation in the face of disparity or inequality. Organizations exist to control, and control derives from unexamined, socialized, power dynamics that need to be critiqued to open space for meaningful social analysis and critical reflection. Critical pedagogy, according to Fenwick (2000, 258), can help ‘learners trace the politics and constraints of their contexts of experiential learning’. Research might attend to critical analysis of the interaction of individual learning paths to reveal un-discussible patterns that constrain individual and social agency and open up new perspectives. It might involve groups of people who deconstruct power dynamics and gain agency or empowerment to work against oppressive norms and practices.

Reflection in the enactivist perspective

From the enactivist perspective, reflection is emergent through continuously evolving mindful awareness as individuals interact together as holistic systems. It is *within* this interaction of systems that people continuously realign their affective and cognitive experience even while they may be engaging in more traditional constructivist reflection *on* or *in* action.

In this perspective, the individual is a subsystem that is itself complex consisting of cognitive, affective, biological, and sensitizing elements. Knowledge is embodied in this complex system; both conscious and tacit subconscious knowing that is always emerging through the interactions within itself and between the other systems in its context. The focus of enactivism is on the interactions between and among these various entities as subsystems that comprise a larger system, with each subsystem changing and being changed through co-coherence among the systems.

Learning and meaning making are co-emergent through mutual interaction of the learner and environment or context with each changing, possibly in divergent ways, through their interconnections (Van den Berg 2013). While recognizing parallels with constructivism and situated learning, writers on enactivism place emphasis on learning as a process of interconnected beings in complex systems that are mutually changing. Learning is *occasioned*, *not caused*; ‘knowing and learning are situated in and co-emerge with “complex webs of experience”’ (Van den Berg 2013, 198).

Reflection is part of an embodied process involving both conscious and subconscious influences. Reflection as described by Schön (1983) and adult educators such as

Mezirow (1991) is described as falling into the trap of the individualized learner as an entity separate from his or her context engaging in rational cognition. Fenwick (2000, 2001) thus essentially classifies reflection as synonymous with the constructivist perspective that ‘privileges individual human consciousness constructing knowledge by engaging in a cognitive process of reflection upon episodes of lived experience ... the separation of cognition and situated embodied experience; the failure to acknowledge the discursive production of experience; the representation of learners as a unitary self’ (Fenwick 2001, 25).

Writing from an enactivist perspective, Snoeren, Niessen, and Abma (2015) critique traditional HRD and adult/organizational learning framings of reflection: ‘Although we acknowledge the value of reflection for testing and correcting spontaneously and unconsciously gained knowledge, as do, for example, Eraut (2004), Marsick and Watkins (2001) and Schön (1983), we argue that the importance of reflection, and the great attention paid to the concept in the literature, is overstated in relation to learning within organisations’ (148).

Seeking a more encompassing view of how learning unfolds, these authors argue that assumptions about workplace learning, including those about the centrality of reflection, are ‘grounded in cognitivism and social constructivism. ... There is little emphasis on the learning that emerges spontaneously or “on the spot” while acting and doing’ (138–139). At the same time, they underline the importance of intentional learning, explication, and (collective) reflection.

The enactivist perspective draws attention to the limitations of reflection; the boundaries to learning it can possibly create. Enactivism is an ecological/systems perspective seeking to provide a more encompassing way of assessing the emergence of learning (Davis and Sumara 1997). The emphasis on reflection in the other perspectives is seen as a process of leading the learner away from embodied awareness of *feeling*. To quote Varela, Thompson, and Rosch (1991, 27), whose writing is seminal for the enactivist perspective, ‘reflection is not just *on* experience, but reflection is a form of experience itself and that reflective form of experience can be performed with mindfulness/awareness’ of being in action. What they are ‘suggesting is a change in the nature of reflection from an abstract, disembodied activity to an embodied (mindful), open-ended reflection’. By *embodied*, we mean reflection in which mind and body have been brought together, cutting what Varela et al. call ‘the chain of habitual thought patterns and preconceptions such that it can be an open-ended reflection, open to possibilities other than those contained in one’s current representations of the life space’ (Varela, Thompson, and Rosch 1991, 27).

Comparing the five reflection perspectives on seven dimensions

To conceptualize and compare reflection across the cognitive perspectives described above, we distinguish between seven dimensions:

- (1) role of reflection in learning
- (2) key activities
- (3) focus on individual (self) and/or context
- (4) triggers for reflection

- (5) role of power and/or positionality
- (6) role of emotions
- (7) outcomes of reflection

We modelled our identification and discussion of these dimensions on Rogers' (2001) consideration of terminology, definitions, antecedents, context, processes, outcomes, and techniques in his analysis of reflection in higher education.

We were intrigued to discuss the *role of reflection* in learning as it means different things depending on the perspective chosen. Different *key activities* are used to distinguish among the ways that reflection takes place: in your head, through action or in the interaction with others, where the focus may be on the *individual and/or its context* depending on the perspective. *Triggers for reflection* – Rogers (2001, 42) calls these 'antecedents' – signify the starting point of the reflective process. Both the *role of power and/or positionality* and the *role of emotions* differentiate the five perspectives further and give depth to our analysis. Finally, we were interested in looking at the *outcomes of reflection* as a point of reflective conclusion or maybe a starting point for new experiences.

Table 2 delineates the results of our comparison of these seven dimensions across each of Fenwick's (2000) perspectives.

Role of reflection in learning

The role of reflection in learning looks at the emphasis that is placed on reflection in a given perspective. Is reflection considered a fundamental component of individual or group learning, or a process that finds little attention? And what is its relationship to action?

The situative and enactivist perspectives pay the least 'special' attention to reflection and instead focus on learning in and through action. Knowing can only occur through doing, as Polanyi asserted when examining tacit knowing (Gill 2000). Here, reflection is just another learning experience among many others. The psychoanalytic and critical-cultural perspectives do focus explicitly on reflection, with a specific purpose: intrapersonal conflict resolution in the former versus system critique and resistance in the latter. The constructivist perspective has the highest 'expectations' of reflection, claiming in effect that reflection is a requirement for learning to occur.

Key activities

The second dimension – key activities – describes the reflection process as well as the adjectives used to explain the process. Is reflection mainly a cognitive exercise or is it an experience that involves the full body?

By our reading, key activities differ substantially across the five perspectives. Juxtapositions include analytic (constructivist) and deconstructive (critical-cultural) versus embedded (enactivist), participative (situative), and introspective (psychoanalytic). However, the requirement in the psychoanalytic perspective that experiences be explicitly verbalized brings it closer to the critical-cultural and constructivist perspectives. In the enactivist and situative perspectives, reflection may occur but is not pointed

Table 2. A comparison of the five perspectives on reflection along seven dimensions.

| Perspective reflection dimension | Constructivist | Psychoanalytic | Situative | Critical-cultural | Enactivist |
|----------------------------------|---|--|---|---|---|
| Role of reflection in learning | Requirement for learning/meaning-making | Facilitate resolution of intrapersonal conflict | 'Just' a learning (by doing) experience | Critical of culture/system as historically developed | 'Just' part of the process, mindful awareness |
| Key activities | (Meta-)cognition, disembodied rational analysis Self in system | Introspection, verbalization through symbols and metaphors Self in life history or as future self | Participating, experiencing, collaborating System/Tools/Collaborative action | Deconstruction, discourse, questioning of assumptions System imposed on self | Embedded, attentive listening, also: ecological, participatory, extra-linguistic activity Self is a complex ecosystem that is part of a system made up of interconnected intra-systems |
| Triggers for reflection | Need, experience, dialogue, practice, intervention, etc. <i>Not addressed</i> | Therapy, external intervention, dissonance | Participation, collaboration, tools/artefacts in situation | Challenge, power dynamics, disparity, inequality | Ongoing, embedded |
| Role of power and positionality | | Clear focus on the intrapersonal (and possibly interpersonal) levels, power of (opening) the unconscious | As defined/dictated by the situation (in Fenwick: 'Learner moves from peripheral participation in a community to more central positionality with competence') <i>Not addressed</i> | Highly political, borders and boundaries, top-down control, semiotics as signs of authority | Embedded in system, can be changed through the process |
| Role of emotions | Disruptive, something to be managed | Triggers reflection, need to become aware of them | | Anxieties are raised by making power relations visible | Part of the embedded experience (among the cognitive, biological, sensitizing elements) |
| Reflection outcomes | New meaning, new behaviour, correction of error, identifying, and challenging assumptions | Resolved intrapersonal conflict, perspective transformations, new capacities to adapt | Input for further learning experiences/sense making | Resistance, power negotiations, perpetually conflicting | Co-emerging and evolving; not special or separate from other learning experiences that emerge and evolve constantly |

out as playing a key role. Neuroscience confirms and elaborates insight into the many ways that learning occurs unconsciously and suggests that bringing it to consciousness might at times interfere with learning (Bransford 2000). However, in the psychoanalytic perspective, reflection needs to be made explicit in order to probe inner ideas, cognition, and emotions. Reflection likewise plays a key explicit role in the critical-cultural and the constructivist perspectives.

Focus on individual (self) and/or context

In the individual/contextual dimension, we ask how the individual (self) relates to context (situational conditions), particularly to systems, or tools, in the work environment. That is, are self and system two distinct entities, or is one an intricate part of the other? While Fenwick (2000) does not explicitly address self versus system, Kurt Lewin's (1936) heuristic formula – that behaviour is a function of the person interacting with his or her environment – is widely used in understanding learning in organizations.

Even though no perspective ignores systemic, situational factors, we observe that the critical-cultural, enactivist, and situative perspectives privilege the system or broader environment in conceptualizing learning from and through experience, whereas the constructivist and psychoanalytic perspectives (each in its own way) privilege the agency of the self over the system. We note that theory underlying the latter two perspectives assumes that individuals have agency and can manage or control their behaviour, directing choices towards self-determined goals and enacting strategies to overcome barriers and channel resources towards desired ends. Theory underlying the former three perspectives moves beyond this 'modern' understanding of human control and instead levels the playing field among the multiple human and nonhuman players in any given situation that interact to influence learning and change.

Triggers for reflection

In terms of triggers for reflection, we investigated the antecedents that start the reflective process. Do particular events or external interventions trigger reflection (and if so, which ones), or is reflection part of an ongoing process?

The situative and enactivist perspectives emphasize reflection as an ongoing and inevitable learning activity, without specific triggers. On the other hand, the psychoanalytic, critical-cultural, and constructivist perspectives each identify triggers that 'cause' or initiate reflective processes (therapy in the psychoanalytic perspective, power dynamics in the critical-cultural perspective, intervention in the constructivist perspective). These positions are aligned with the above-discussed focus on the locus of agency and control in any given context.

Role of power and positionality

What role do power and positionality play in a given perspective? The critical-cultural perspective is the most attentive to both of these constructs; on the other hand, each is conspicuously absent from the constructivist perspective. Between these extremes, the psychoanalytic, situative, and enactivist perspectives all address power and positionality,

but the importance each attributes to them varies. For example, in the psychoanalytic perspective, with its key focus on the intrapersonal (sometimes interpersonal) level, power is mostly associated with (opening) the unconscious; in the situative and enactivist perspectives, power and positionality are assumed to be embedded in the context or environment, but neither is explicitly articulated.

These differences also align with questions around who or what can control directions and outcomes of human activity. If the power to make choices and decisions resides in individuals, then negotiations for power are central. As the critical-cultural perspective reminds us, in modern organizations that are bureaucratically organized and centrally controlled through hierarchy, there will always be winners and losers. Those with less power can be ‘managed’ unless they find ways to confront power or else work around it. The situative perspective sheds light on how learning and decision-making, in fact, are influenced and shaped by artefacts, tools, and other players that may lay outside the scope of attention or consciousness of an individual’s goals and efforts. The psychoanalytic perspective deconstructs feelings, resistance, and other unconscious forces in order to surface, examine, and better manage or cope with power and agency outside the self. The enactivist perspective emphasizes complexity and forces outside the self as the entire ecology of an environment co-emerges with or without the active awareness of individual players.

Role of emotions

The sixth dimension refers to the issue of to what extent the affective domain is part of each perspective’s conceptualization of reflection.

The situative perspective pays the least attention to emotions because its focus is not on the individual, but rather in interaction with elements in the context examined. The constructivist perspective seeks to rise above emotions that might cloud thinking, meaning derived in a particular context, or good choices about goals and directions. Emotions could be considered divergent, a nuisance, or even an impediment to good learning. The enactivist perspective acknowledges the affective domain as an integral part of ecological systems of experience, but enactivist writers explore ways to conceptualize or position the individual as an enmeshed node rather than as an independent entity. Emotions might occur but the ecosystem will prevail, so little attention is paid to this individual concern. The psychoanalytic and critical-cultural perspectives explore emotions as positive or negative triggers for reflection that deepen insight into the true nature of power and control and can lead individuals – as primary agents or members of collective moments – to initiate change.

Reflection outcomes

Generally speaking, the outcome of reflection might include learning, but each perspective differs in what is gained when individuals *reflect*.

In the psychoanalytic and constructivist perspectives, outcomes are identifiably discrete. They often focus on individual gains in self-insight, agency, control, and choice. Skills can be developed in the service of pursuing goals and interests. On the other hand, the critical-cultural, situative, and enactivist perspectives describe

outcomes as evolving and continuously changing over time. Outcomes ‘happen’, but they cannot be controlled by individuals even though choices individuals make can contribute to the larger systemic changes that result in the environment and that may affect individuals. The focus in the latter three perspectives would be on system-level variables. Individuals can, so to speak, ‘catch the wave’ and ride their learning towards personally satisfactory choices, but they may or may not affect key shifts in the situation or environment by so doing. Control is difficult, if not impossible, because interactions among feedback loops and the influence of random, unplanned events take precedence.

Conclusions: complementary perspectives?

The aim of this paper was to conceptualize reflection in robust ways so that we, as researchers, could support further study of learning from and through experience in the workplace. We reviewed and compared Fenwick’s (2000) different conceptual perspectives to answer this question. All of these perspectives use their own particular lens with which they view the concept of reflection.

A first conclusion is that the five perspectives seem sufficiently different in terms of relevant reflection dimensions to be distinguished as such. As can be derived from Table 2, in terms of seven dimensions to understand reflection, the five perspectives differ considerably, even if they share some similarities, at least in terms of acknowledging reflection and some of its characteristics in learning. In particular, the situative and enactivist perspectives share some commonality in their conceptual bases (as well as a propensity towards doing action research), making them perhaps the two most similar perspectives among the five. However, they also differ in key respects, for example in how they conceptualize the function and importance of the self as embedded or enmeshed within a co-evolving system, the extent of ambiguity due to volatility and complexity, and the role of emotions.

Each of the perspectives, therefore, has the potential to add one or several useful pieces to the puzzle that is conceptualizing reflection for research on experience-based workplace learning. The question we now need to examine is whether an approach for conceptualizing reflection can emerge in which one or more of these five (or more, see below) perspectives can coexist and complement our understanding of learning through experience at work.

A second conclusion, then, is that the five perspectives are actually so different – because, as Fenwick (2000) posited, they rest on fundamentally opposing ontological and epistemological premises – that it would be difficult, if not impossible, to propose any framework that sufficiently respects the key ideas each proposes about reflection vis-à-vis learning from experience. In other words, for empirical research looking at reflection in experience-based workplace learning, not all five perspectives would be equally useful, and their usefulness would depend in large part on the particular aim of the study at hand.

Although we now understand that, on a theoretical level, various perspectives may be used together but not meaningfully integrated, researchers in practice will still want to study reflection using different perspectives as they see fit, preferably without doing injustice to them. Our paper shows that there is merit and considerable

promise in that effort. Using Fenwick's work as a point of departure and using it to show how reflection fits (or does not) in each of these perspectives, both challenge the orthodoxy around reflective practice and open up for researchers to consider different ways of conceptualizing, positioning, and exploring reflection within workplace learning.

Epilogue: new promising approaches

The largest part of this paper has dealt with the five perspectives that Fenwick (2000) distinguished. In the years that have passed since then, obviously other and newer approaches for understanding learning – and reflection – have surfaced, as Fenwick (2016) herself has noted as well. We have established in our conclusions that a combination of several existing perspectives on reflection can be useful to conduct research into experience-based workplace learning. In the remainder of this paper, we present a critical view on reflection conceptions based on these newer approaches, which could inform further empirical studies in this area.

Implicit in the foregoing comparisons among the five perspectives is a proposition about the *location* of reflection, either as a process that contributes to learning or as a more or less self-contained component of learning. Where does reflection occur? Is it housed, or embodied, by individual human participants, or is it embedded in the networks that comprise the learning ecology? With the exception of enactivism, each perspective profiled here positions reflection as a property of human cognition. Recent scholarship in organizational learning critiques this premise, however. For instance, in what might be held as a further expansion on her thinking about enactivism, Fenwick (Fenwick and Edwards 2011; Fenwick, Edwards, and Sawchuk 2011; Fenwick 2016) uses the word *sociomaterialism* to describe systems-oriented, ecological approaches that premise co-emergence and enmeshment. In her most recent work, in fact, Fenwick (2016) calls on sociomaterialism (and not enactivism) to operationalize professional responsibility in the workplace. Elevating the pragmatics of co-emergence like this (e.g. by asking how to manage complex organizational challenges in an accountable way) suggests new avenues for thinking about reflection; what it is, how it works, and where it is located in a given learning ecology.

For example, scholarship coalescing under the banners of posthumanism (Braidotti 2013) and new materialisms (Barad 2007; Bennett 2010) points to the entanglement of social space with materiality as a heuristic for understanding learning in workplaces (and elsewhere). In these descriptions, it makes very little sense to posit a human-centred effect, like reflection, as a prime motivator of complex action in complex ecologies. In her classic study of arteriosclerosis in a Dutch hospital, Mol (2002) configures medical care as a complex choreography of multiple human and nonhuman actors and positions doubt – for instance, the doctor's or pathologist's questions about what to do next – as key to opening new spaces for manoeuvring and negotiating practice. From a sociomaterial perspective, Mol's study might be held as questioning the viability of reflection that remains locked inside an individual (human) actor. In fact, the complexity Mol describes resists the stabilization of space or topology that depends on binary oppositions, for example inside/outside or human/nonhuman. Perhaps, she suggests, the world just

does not work that way. Rather, the complexity and enmeshment one encounters in practice, as suggested by Fenwick's sociomaterialism (Fenwick, Edwards, and Sawchuk 2011; Fenwick 2016), imply a messy sharing of agency and outcome. What to do with such indeterminacy?

One way forward might be to theorize reflection (in the head) as distributed or shared agency with materials (in the world). For example, in his autobiography about wood carving, Esterly (2013) describes creativity as co-emergent with the act of carving; that is, rather than having an idea (and reflecting on that idea) and *then* grabbing the chisel, Esterly argues that ideas come from action, from just getting to work, from handling the chisel, and engaging the wood. At about the same time that Fenwick (2000) described enactivism, Hayles (1999, 14) argued that materiality 'is not a pre-given entity but rather a dynamic process that changes as the focus of attention shifts'. Similarly, Hansen (2015, 3) emphasizes *co*-emergence by arguing 'we can no longer conceive of ourselves as separate and quasi-autonomous subjects'. The notion that consciousness is not separable from ecological entanglement is at the core of posthumanism and new materialisms, what Bennett (2010, 31) means when she declares, 'There never was a time when human agency was anything other than an interfolding network of humanity and nonhumanity'.

In this respect, a new question surfaces: How can reflection, as an action, be articulated if the role of the individual (human) actor has been reconfigured or even diminished? While a precise terminology has yet to stabilize, it is probably not premature to gesture broadly towards sociomaterialism's counter proposition that reflection cannot be locked-in as a prerogative of human actors. In fact, Fenwick's (2016) most recent articulation of the process-based negotiations between human and nonhuman participants strives for some kind of assemblage that remains coherent but does not reduce to simplistic causalities or to one-to-one descriptions of accountability. The suggestion here might be that even in organizational learning ecologies, action is an emergent and contested conversation with interconnected systems of social and material responsibilities. How the changes in the conversation about reflection brought about by these new promising approaches will affect our operationalizations of reflection in empirically studying workplace learning is a question we will deal with in a separate paper.

Note

1. The authors acknowledge the distinction between 'constructivism', that is the individual's process of meaning making through experience and reflection, and '(social) constructionism', that is the construction of historical and cultural meaning through social processes (Kim 2001; Young and Collin 2004; Talja, Tuominen, and Savolainen 2005). Given that our focus is on exploring individual learning in the workplace and keeping in line with Fenwick's (2000) use of the term, the authors use 'constructivism' in this paper.

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